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AMATEUR RADIO

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EDITORIAL



THE WHEELS OF CANBERRA

In May, 1953, we informed you that the Postmaster General's Department had agreed to the issuance of the Technician License, or as it is now known, the "Amateur Operator's Limited Certificate of Proficiency."

In December, 1953, we recorded our disappointment at the delay in completion of machinery necessary to fully implement the scheme.

Now, we are happy to announce that "the wheels of Canberra" have completed their slow revolutions and every last cog has been fitted into its assigned place. The result may be read in "Amendments to the Wireless Telegraphy Regulations CSR 1954 No. 50."

The self same document also requires future applicants for both "A.O.C.P." and "Limited A.O.C.P." to pay one pound examination fee.

An imposition that we know will not in anyway dampen the enthusiasm of the genuine candidate.

To turn to the bright side of the picture, we remind A.O.C.P. candidates who failed in Morse Code only since January, 1953, that they are now eligible for Limited A.O.C.P. and should make immediate application.

Many technically capable enthusiasts who lacked morse qualifications now have the opportunity to show their ability and keenness. Undoubtedly in the near future the v.h.f. bands will become densely populated by a new race of keen experimenters. It is from the ranks of these men that the C.D.E.N. will draw most of its personnel in future national emergencies. So give them every encouragement chaps!

FEDERAL EXECUTIVE.

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BY TOM ATHEY,* A.L.R.E.

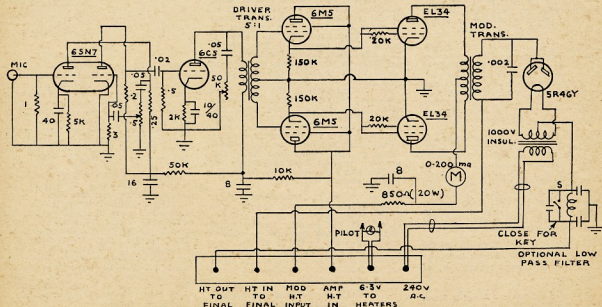
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A Great Circle Nomogram

BY A. K. HEAD,* VK3AKZ

IF you have not got a great circle map centred on your locality, then the need may arise to calculate the great circle bearing and distance of various places round the globe. A very good description of how to do this by trigonometry is given in the R.S.G.B.'s Amateur Radio Handbook. If you are not up on trigonometry, then here is a nomogram for doing the same thing.

Since it needs to be large for accuracy, instructions are given for drawing it yourself rather than printing a not-so-accurate one. Even if you are up on trigonometry, this nomogram will do it faster than you can calculate. In the R.S.G.B.'s Handbook it is estimated that it takes about 100 hours to do a complete great circle map. Most of this time would be spent in calculations. You could do it in about 10 hours if you use this nomogram, a more practical proposition.

CONSTRUCTION

The only materials you need are a ruler, pencil, and a sheet of graph paper. An ideal size for the graph paper is one on which you can draw a 10 inch square. This size will enable you to read the scales to one or two degrees. The more common foolscap sheet of graph paper will restrict you to a seven inch square, but this should be accurate enough for most purposes.

Anyhow, on the graph paper, draw the largest square it will take. The two sides and the top of the square will be the three scales of the nomogram. Then calibrate these by using the accompanying table. For the top side, start with 0 degrees at the left and work across to 180 degrees on the right. The table tells you where the calibration marks go as a percentage of the side of the square.

For example, with a 10 inch square, the 60 degree mark will be 2.5 inches from the left hand corner, 90 degrees at 5 inches, 120 degrees at 7.5 inches, etc. Having gone from 0 to 180 degrees, you now put the alternative calibrations on each of the marks. As a check, notice that the two calibrations on each mark always add up to 360 degrees.

The left hand edge of the square is calibrated in the same way, using the same table, starting with 0 degrees in the top left hand corner, coming down to 180 degrees in the bottom left hand corner, then working back up to 360 degrees. The right hand edge of the square is calibrated the same as the left hand edge with 0 and 360 degrees at the top right hand corner and 180 degrees at the bottom right hand corner.

This completes the construction of the nomogram and it should now look like Fig. 1 (but with more calibrations, of course).

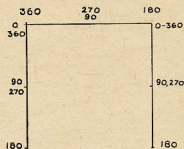


Fig. 1

HOW IT WORKS

First you need to know your own and his latitude and longitude. These only need to be to the nearest degree. Next turn the latitudes into co-latitudes. This is simply the number of degrees from the North Pole, whereas latitude is the number of degrees from the Equator. So for latitudes South of the Equator, add on 90 degrees to give the co-latitude. For latitudes North of the Equator, subtract the latitude from 90 degrees to give the co-latitude.

Having calculated your and his co-latitude, add them together and mark the corresponding point on the right hand scale. Then subtract the smaller of the two co-latitudes from the larger and mark the corresponding point on the left hand scale. Join these two marks with a straight line or just lay the ruler across them.

Next you work out the difference in longitude between yourself and him. If you are both in the same hemisphere (East or West), then you subtract the smaller longitude from the larger. If one is in each hemisphere, then add the two longitudes. Locate the corresponding point on the top scale, run straight down (using the lines of the graph paper as a guide) until you come to the ruler, then run sideways to the right hand scale and read the answer. This is his great circle distance from you. The answer is in degrees, but as each great circle degree is 69 miles, a simple multiplication gives you the answer in miles. Notice that since there are two calibrations to each mark you have two answers. Both of these are correct, the smaller being the short way round, the larger, the long way round.

Next we use the same nomogram to calculate his great circle bearing. You have just found the great circle distance (the short way round). Leave this in degrees and look up your co-latitude again. Add one to the other and mark the answer on the right hand scale. Subtract one from the other and mark on the left hand side. Join these two points with the ruler.

Then mark his co-latitude on the right hand scale, go sideways from here across

to the ruler and then straight up to the top scale, which tells you the great circle bearing. Once again you have two answers, but unfortunately only one is right. The bearing is given on the 360 degree system with North 0 or 360, East 90, South 180, West 270. Common sense will tell you which of the bearings is the right one. This ambiguity is not really the fault of the nomogram as exactly the same thing happens when you work it out by trigonometry.

AN EXAMPLE

A picture is worth a thousand words, so here are two for good measure.

We will work out the great circle bearing and distance of Los Angeles (latitude 34N longitude 118W) from Melbourne (latitude 37S longitude 145E). First the co-latitudes. As Los Angeles is in the North latitude, its co-latitude is 90 minus 34, equals 56. Melbourne is South latitudes, so its co-latitude is 90 plus 37, equals 127. Add these two co-latitudes together, giving 183 and mark this on the right hand scale. Subtract one co-latitude from the other giving 71, mark this on the left hand scale. Join 71 to 183 with the edge of the ruler.

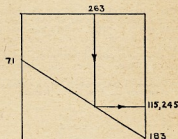


Fig. 2

Next we need the difference in longitude. As one is West and the other East, the difference in longitude is 118 plus 145, equals 263. Start at this point on the top scale, come down to the ruler and across to the right hand scale. The great circle distance is 115 or 245 degrees. Fig. 2 shows the lines on the nomogram. Turning these distances into miles, the short way round is 7,935 miles and the long way round is 16,905 miles.

Figure 3 shows the lines which are drawn in calculating the bearing. Add the co-latitude of Melbourne to the short great circle distance, 127 plus 115, equals 242, mark this on the right hand scale. 127 minus 115, equals 12, mark this on the left hand scale. Join 12 and 242 with the ruler. The co-latitude of Los Angeles is 56, start at this point on the right hand scale, come across to the ruler and up to the top scale where you read the great circle bearing as 65 or 295 degrees. Since Los Angeles is North East from Melbourne, the bearing to take is 65 degrees.

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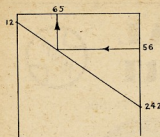


Fig. 3

THE GREAT CIRCLE MAP

The following advice on constructing a great circle map is adapted from The Amateur Radio Handbook, which is now unfortunately out of print.

Instead of calculating the data for specific towns, the entire graticule of the lines of latitude and longitude should first be constructed. This is done by calculating the bearings of the points at the cutting of the "tens" of longitude with the "tens" of latitude, i.e. 10, 20, 30, etc., East or West with 10, 20, 30, etc., North or South. A simplification could be made by the use of lines 20 degrees apart, but the choice lies with the reader and depends on the size of the map required. Using the 10 degree spacing, some 800 or 900 points would have to be calculated. By trigonometry this would take 80 or 90 hours, but can be done much quicker by the nomogram. For instance, one timesaver is that the distance calculations for the 36 points on each parallel of latitude can be done without shifting the ruler.

For the choice of a scale on which to base the map, 1,000 miles to the inch will give a map about two feet in diameter, which is a useful size. A good stout drawing paper should be used and mounted on a drawing board. A pair of beam compasses should be borrowed from a draughtsman, or made up from Meccano or wood. Draw the large circle

which is to contain the map and outside it another circle with say a half inch larger radius. Between these circles mark the points and degrees of the compass with the aid of a protractor. The usual scheme of having North at the top is probably the best.

The next step is to construct a scale about 13 inches long with a drawing pin at one end on which the scale will pivot about the centre of the map. The scale should be of stout material and it should be graduated uniformly from 0 to 180 degrees, starting at the drawing pin and finishing at a distance from the pin equal to the radius of the map. By the use of this scale the values of the distance can be plotted directly on the map without conversion to miles. Care should be taken to ensure that the edge of the scale forms a radius of the circle. The edge will have to stop short of the centre of the map to allow for the drawing pin, but it should be so constructed that the edge, if produced, would cut the centre of the drawing pin exactly.

The outer end of the scale can then be placed on the appropriate bearing calibration and the position of the point marked from the 0-180 degrees distance scale. It is advisable to do all calculations before starting to plot and then to plot the whole of one meridian of longitude and to connect up the points before proceeding to the next meridian, as the apparently strange positions of some of the points may otherwise cause some confusion.

Having constructed the graticule, the interesting part of the work is reached in the insertion of the outlines of the various continents and countries. An ordinary school atlas will supply the necessary information and the outlines can be followed from meridian to meridian or parallel to parallel as they may run. As an additional check, the positions of special capes, towns and other features can be calculated individually.

It is not expected that many Amateurs in South Eastern Australia would be interested in constructing a great circle map as published maps are available. But with VK land ranging from Cocos to Antarctica and up to New Guinea, it is felt that there are some who would be prepared to make this useful accessory to Amateur Radio. The writer would be pleased to hear from those who try, how it actually takes to construct a map, and will answer any queries you may have.

AMATEUR BANDS AVAILABLE

*1.84—1.86 Mc.	†283—296 Mc.
3.5—3.8 "	†576—585 "
7—7.15 "	1,215—1,300 "
14—14.35 "	2,300—2,450 "
21—21.45 "	5,650—5,850 "
26.96—27.23 "	10,000—10,500 "
28—30 "	†21,000—22,000 "
50—54 "	†30,000 Mc. and
144—148 "	Above.

* Available for emergency network purposes only. Normal Amateur activities are not permitted in this band.

† Temporary allocations.

50 Mc. W.A.S.

Call	Certificate Number	Additional Countries
VK2WJ	13	4
VK2VW	9	3
VK4RY	2	2
VK4HR	2	2
VK5LC	1	1
VK6DW	3	1
VK3PG	5	1
VK3RR	6	1
VK3HT	7	1
VK2AEZ	10	1
VK3XA	11	1
VK3GM	12	1
VK3AL	14	1
VK3ZD	16	1
VK2RO	17	1
VK2ABC	8	
VK2WH	15	

DX C.C. LISTING

Call	No. Ctr.	Call	No. Ctr.
VK3BZ	12	VK3HJ	20
VK3HR	3	VK4WJ	17
VK4P	21	VK4JP	8
VK3BE	16	VK4DO	21
VK6RU	2	VK6MS	24
VK3JD	1	VK4CB	28
VK4KS	9	VK3WM	29
VK3KW	4	VK3HO	25
VK3LN	11	VK2ADT	13
VK3AWW	14	VK3AHA	15
VK3JE	7	VK3RM	19
VK4P	16	VK3GJ	5
VK3ATN	26	VK3CG	18
VK3G	23	VK3JL	21
VK6DD	6	VK3AUP	30

G.W.

Call	No. Ctr.	Call	No. Ctr.
VK3BZ	12	VK3HJ	20
VK3HR	3	VK4WJ	17
VK4P	21	VK4JP	8
VK3BE	16	VK4DO	21
VK6RU	2	VK6MS	24
VK3JD	1	VK4CB	28
VK4KS	9	VK3WM	29
VK3KW	4	VK3HO	25
VK3LN	11	VK2ADT	13
VK3AWW	14	VK3AHA	15
VK3JE	7	VK3RM	19
VK4P	16	VK3GJ	5
VK3ATN	26	VK3CG	18
VK3G	23	VK3JL	21
VK6DD	6	VK3AUP	30

OPEN

Call	No. Ctr.	Call	No. Ctr.
VK3BZ	12	VK3HJ	20
VK3HR	3	VK4WJ	17
VK4P	21	VK4JP	8
VK3BE	16	VK4DO	21
VK6RU	2	VK6MS	24
VK3JD	1	VK4CB	28
VK4KS	9	VK3WM	29
VK3KW	4	VK3HO	25
VK3LN	11	VK2ADT	13
VK3AWW	14	VK3AHA	15
VK3JE	7	VK3RM	19
VK4P	16	VK3GJ	5
VK3ATN	26	VK3CG	18
VK3G	23	VK3JL	21
VK6DD	6	VK3AUP	30

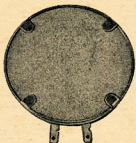
TABLE

Degrees	%	Degrees	%
0 : 360	0	90 : 270	50
5 : 355	0.2	95 : 265	54.3
10 : 350	0.7	100 : 260	58.7
15 : 345	1.7	105 : 255	62.9
20 : 340	3.0	110 : 250	67.1
25 : 335	4.7	115 : 245	71.2
30 : 330	6.7	120 : 240	75.0
35 : 325	9.0	125 : 235	78.7
40 : 320	11.7	130 : 230	82.2
45 : 315	14.7	135 : 225	85.3
50 : 310	17.8	140 : 220	88.3
55 : 305	21.3	145 : 215	91.0
60 : 300	25.0	150 : 210	93.3
65 : 295	28.8	155 : 205	95.3
70 : 290	32.9	160 : 200	97.0
75 : 285	37.1	165 : 195	98.3
80 : 280	41.3	170 : 190	99.3
85 : 275	45.7	175 : 185	99.8
		180	100

MODEL "1XA" CRYSTAL MICROPHONE INSERT



AUSTRALIAN MADE — — FOR AUSTRALIAN CONDITIONS



FITTED WITH PLATED REAR SHIELD TO ELIMINATE HUM PICK-UP

- Patented crystal unit guarantees outstanding efficiency and performance.
- Protected against ingress of moisture with approved moisture sealed crystal element.
- Small — compact — lightweight — durable.
- Will not blast from close speaking.
- Precision engineering ensures realistic reproduction and high output with long life and dependable operation.

- The only unit available with a genuine sintered metal filter.
- Good high frequency response ensures excellent speech reproduction.
- Aluminium diaphragm mechanically protected and frequency controlled by "Zephyrfil" filter.
- Australian made throughout.
- Only carefully selected cements used throughout, to suit Australian climatic conditions.

TECHNICAL DETAILS

Rochelle salt crystal microphones are perhaps the most widely used for all types of service where quality speech and music reproduction at high output levels is a requirement. They are dependable in performance and when fitted with the appropriate "Zephyrfil" filter, their frequency response may be adjusted to suit any application or requirement.

This crystal microphone requires to be terminated with a high value parallel load of the order of 1 to 5 megohms for best results.

The mass of the moving parts is small, hence the sensitivity is high and a high efficiency is achieved.

Light gauge solder lugs are provided so that excessive heat in soldering will not be transmitted to the crystal element.

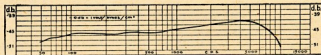
When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

One of the connecting lugs is directly connected to the case and care should be taken to solder the metal shield of the microphone cable to this solder lug, keeping the unscreened portion of the centre conductor as short as possible to eliminate hum pick-up.

All crystal elements are mounted on high grade suspension pillars, being fixed thereto with a good quality cement, thus ensuring stability and long life.

Case $1\frac{1}{4}$ " diameter (rear), $\frac{3}{8}$ " thickness, 1-13/16" overall diameter (front) with filter fitted.

Frequency Response = 60-6,500 c.p.s.
Output Level = -45 db (0 db = 1 volt/dyne/cm²)
Impedance = Model 1XA Grid 1 — 5 megohms.



Approximate Frequency Response Curve

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Getting the Most Out of Your Receiver

A Few Hints on Proper Handling

ALTHOUGH Amateur Radio is generally considered to be a friendly hobby, one good way to get a punch in the nose is to tell a Ham he does not know how to get the most out of his receiver. In no uncertain terms he will tell you (before or after the punch—this varies with the individual) that he has had a Ham ticket for x years, and that if anyone can squeeze the last bit of usefulness out of the receiver, he can. Then he is likely to go on and say that there are some things that are wrong with his particular receiver, because it is a real dog that was designed by some self-styled engineers who were in reality idiots studying nights to become morons.

This article assumes that there are still a few non-belligerents who might be interested in getting the most out of their present receivers at no great cash outlay.

DESIGN FAULTS

Let's take a very common case, the one where the owner criticises his receiver because it has too much warm-up drift. (Actually, receivers are getting better in this department every year, but you still hear the criticism.) A very simple dodge is to prop up the lid an inch or so, with a match folder or other convenient spacer, to provide for better air circulation. The maximum operating temperature will be reduced, and so will the warm-up drift. This is true, of course, of only the solid-cover receivers—you won't improve the circulation much by propping up a cane-metal cover.

Another fault easy to find with a receiver is the location of the tuning knob—it's either too low or too high. The solution is simple if the knob is too low for you—prop up the receiver with books or a shelf of the proper height. (A shelf leaves a convenient cubbyhole under the receiver for log-book, call book and scratch pad.) If it's already too high, there isn't too much you can do, although some operators drop the rear of the receiver into the table so that the panel is sloping.

Some receivers come through with tuning knobs that are too small, but anyone who suffers with this very long isn't thinking down the middle—it's easy to replace the knob with a larger one of your choice.

Frequency calibration is something that two-dial (bandset and bandspread) receiver owners worry about unnecessarily (in our opinion). It is, of course, quite difficult to set up the bandspread dial to read accurately by setting the bandset dial to some predetermined mark, but it's a cinch to do it if you have a 100 or 1,000 Kc. standard around the shack. At least it's a cinch to set it up for the band edge you're working closest to, and that's all you have to worry about during any particular operating period.

If the receiver design is such that the bandset knob can get knocked out of adjustment (a frequent complaint), put a dial lock on it. Then when you set up the receiver on a band edge and lock the bandset knob, you have a well-calibrated receiver for that part of the band. If you do not want to drill any additional holes in the receiver panel, it is sometimes possible to mount the lock on a strip of metal that is fastened to the receiver by screws under the bottom of the receiver or under the locknut on the dial shaft bushing.

There are so-called design faults that can be overcome by digging into the set and changing it over, but this should be done only if you have experience and confidence with receivers. Even

as the tuning indicator. Leave the tuning alone and just touch up the i.f. trimmers for maximum S meter reading.

Many two-dial receivers can be improved in performance by aligning the front ends in the middle of the Ham bands, letting the performance degrade if necessary outside these bands. All this means, of course, is peaking the r.f. and mixer stages while the receiver is tuned to a Ham band, and the instruction book will tell you where to find the trimmers. Use the capacity trimmers if the Ham band falls near the low-capacity end of the bandset condenser, and the inductance trimmers if the Ham band falls at the high-capacity end of the bandset condenser.

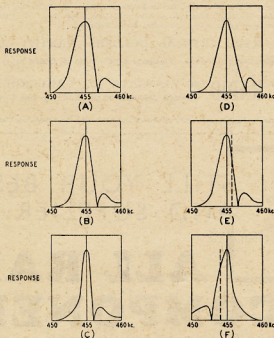


Fig. 1.—showing how the selectivity of a crystal filter changes with the setting of the selectivity and phasing controls. As the selectivity is changed, the pass-band is made narrower, as indicated in A, B and C. The phasing control changes the position of the notch, as shown in D, E and F (selectivity same as in B). The relative location of the b.f.o. frequency is shown by the dashed line in E and F.

then an owner is often justifiably reluctant to work over a receiver because he is afraid he might impair its resale value in some way. But one thing that can be done without endangering its turn-in value is to make certain that the receiver is properly aligned, and peaked on the Amateur bands. The i.f. alignment should be checked to be sure that its peak coincides with the crystal filter frequency, but just touch up the i.f. trimmers and not those associated with the crystal filter (the modern ones are tricky and you can foul them up in a hurry). You do this by first tuning in a steady carrier (b.c. or frequency standard) with the crystal filter in the sharpest position and with the S meter

SELECTIVITY AND OVERLOAD

Now let's get down to some of those ideas we had at the start, when we got that punch in the nose. One big operator fault is in not knowing the limitations of a receiver, and as a consequence unjustifiably criticising a transmitted signal for a crime it didn't commit. Any superhetrodyne has limitations of selectivity and signal-handling capability, and you can't call yourself an operator unless you can recognise them.

Take front-end selectivity, for example. Unless you realise that your receiver can have "images" in the higher frequency ranges, you may be one of those who will tell us to get that blank-

* Reprinted from "QST," January, 1954.

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ety-blank short wave b.c. station out of the middle of the 14 Mc. band, which investigation will show to be a powerful station around 15 Mc. riding through as an "image." (It has happened on several occasions, so don't think we are pulling this example out of the air.) You can identify these images easily by setting up the receiver for single-signal c.w. reception—an image will come in on the "wrong" side of zero beat. (If you don't know how to set up the receiver for single-signal reception, we'll get to it a little later.)

If you are troubled with images, do not add any more tubes ahead of your receiver, for reasons to be mentioned in the next paragraph. Your best bet is to get some more tuned circuits between the antenna and the receiver—often a simple antenna coupler (as described in the Handbook) will improve the image rejection quite noticeably.

Perhaps you have been criticising a powerful local Ham station for "birdies" throughout the band, when investigation would show that it is caused by overloading of your receiver in the front end or in the first i.f. stage. Check on the "birdies" by using a small receiving antenna and backing down on the "gain" control. We know of instances where some of the older receivers that had two r.f. stages ahead of the mixer were greatly improved by removing one of the r.f. tubes and plugging in a small (5 or 10 pF.) coupling condenser from grid to plate at the empty socket. The strong local signals cleaned up as if by magic, and one could copy signals a lot closer to them (frequencywise) than before.

In a case like this, where you are trying to copy a signal near a really strong one, you are usually forced to resort to manual gain control since the a.v.c. system just can't handle the situation adequately. This is especially true if the interfering signal is pulsing or syllabic in nature, like c.w. or s.s.b. An ideal receiver would have all of the selectivity between the antenna and the first tube, but of course it just can't be built that way with present techniques. Another approach would be to use transmitting-type tubes as linear amplifiers up to the high selectivity portion of the receiver, but this hasn't found too much favor yet. It is therefore mandatory that you keep the signal levels down to some low value until you can get into the selective circuits of the i.f. amplifier. In any event, try handling strong signals with the manual gain control, and don't rely on a.v.c. under all circumstances when copying a.m.

C.W. SELECTIVITY

Some c.w. operators like selectivity, and others prefer to depend upon their ears. We aren't going to make an effort to change anyone one way or the other, but if you are one who doesn't use his crystal filter because he doesn't know how to—and you aren't alone, believe us!—we heartily recommend that you spend a little time with it. All selectivity does for you is to make the selectivity "window" quite a bit narrower, so that fewer signals can get through with any one tuning-dial setting. The crystal "notch" (adjustable through the "phasing" control) is used to increase

National Field Day 1954 Results

All sections of this year's National Field Day Contest were won by Harold White, VK2AHA, operating portable from Readhead, seven miles south of Newcastle, with a power input of eight watts. Harold is one of our keenest and most consistent operators of portable equipment and his score this year shows what can be done with relatively low power equipment.

A new system of scoring was tried out this year in an endeavour to encourage the use of low power equipment. An examination of the logs submitted indicates that this was quite a successful experiment. Quite a number of stations operated with powers of under five watts and nearly all were under 10 watts. The corrected scores showed that the use of the inverse multiplier had the effect of equalising the scores of the higher scorers.

The change of date from the Australia Day week-end was apparently successful although it was unfortunate that the day selected clashed with the A.R.R.L. Contest. The date was decided on long before the announcement of the A.R.R.L. Contest was received and could not be changed at short notice.

Logs are still very much below standard and this makes the job of the Contest Committee harder than necessary. In an endeavour to assist contestants submitting logs for future contests the following faults are taken from the N.F.D. logs:—

* Several contestants did not indicate whether contacts were made on phone or c.w. All were placed in open section.

the rejection on one side of zero beat, so that a c.w. signal tunes from a high beat note down to zero and comes up very weakly, if at all, on the other side. This is called "single-signal rejection." If the b.f.o. is set improperly you will not get it well. The "selectivity" control selects a crystal-filter bandwidth for you, from a broad one to a sharp one, and you use the setting you like or that conditions call for. But you must remember one thing—the more selectivity you use, the more carefully you must tune, because a signal won't occupy as much space on the tuning dial with selectivity as it will without.

While listening to a particular signal, you can reject an interfering one by readjustment of the phasing notch if you care to, or by switching to a more selective setting and retuning the receiver a bit, to put the interfering signal "out of the window." A common error is to reserve the crystal filter only for times when you run into QRM, but unless you know your receiver well, you run the risk of losing the desired signal when you switch in the crystal filter, and it is advisable to do all of your tuning with the crystal in and set for single-signal reception.

PHONE SELECTIVITY

The use of selectivity (crystal-filter and other) in phone reception is a whole article in itself, and it will be discussed at some later date.

* Most of the contestants did not take the trouble to work out their scores.

* None of the logs submitted by multiple operator stations showed which operators made the actual contacts. Rule 18 allows Certificates to be awarded to each operator provided he made at least 25 per cent. of the contacts. As the logs did not contain the necessary information, these Certificates cannot be awarded.

We are now at the end of our Institute year and a new Contest Committee will be taking over. The job is not an easy one, but you can help them by following a few simple rules when making out your log.

* Read the rules of the Contest carefully and include in your log all the information required.

* If possible use the standard Institute Log Sheet.

* Put your Call Sign, Name and Address on the first sheet of the log.

* Total up your score and summarise the results on the last sheet.

* State which section of the contest you wish to enter.

RESULTS

Open Section

VK2AHA	.....	33.54	points
VK2ASV	.....	29.8	"
VK2AMW	.....	25.16	"
VK3AID	.....	17.25	"
VK3ACE	.....	6.3	"

Phone Section

VK2AHA	.....	30.4	points
VK4TN	.....	19.17	"
VK3LN	.....	16.8	"
VK3RN	.....	11.25	"
VK3YS	.....	4	"
VK4SF	.....	3.72	"
VK5JO	.....	3.65	"
VK3DY	.....	1.8	"
VK3JO	.....	1	"
VK3SS	.....	1	"

C.W. Section

VK2AHA	3.146	points
--------	-------	-------	--------

Fixed Stations

VK5RG	.....	75	points
VK7DR	.....	40	"
VK2ABT	.....	35	"
VK5KH	.....	25	"
VK2ZX	.....	20	"
VK3GE	.....	10	"

Check Log

VK2ALG/P

— . . . —

VK-ZL CONTEST CORRECTION

It has been noted that an error has been made in the scores published in the April issue. VK4RT was shown in third place in the Open C.W. Section with 2794 points. This entry should have been in the Open Phone Section with this score. VK4RT is now the winner of this Section with VK4SF second. Apologies are extended to both competitors.

—Federal Contest Manager.

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Geloso Signal Shifter

One of the problems which beset the Amateur is that of providing drive to his final amplifier on the 80, 40, 20, 15 and 10 metre bands. The most popular method of doing this has been to use a doubler string and couple the final amplifier to the one required. This method works quite well, but requires a large number of valves; if a v.f.o. is used to drive the string, say three tubes for the v.f.o. and a minimum of four for the doublers, making a total of seven in all. Apart from the expense angle, the additional valves take up quite a bit of space.

In the Geloso Signal Shifter we see an entirely different approach. Here we have sufficient output available to drive an 807 to full ratings on all five bands, and in addition, v.f.o. control as well, and best of all three valves do the whole job, which means a big saving in space and cost.

The physical layout is shown in Fig. 1 and the circuit in Fig. 2. Taking the physical layout first, the chassis dimensions are depth $5\frac{1}{2}$ " width $4\frac{1}{2}$ ", chassis turn-down $2\frac{1}{2}$ ", and dial width $8\frac{1}{2}$ ".

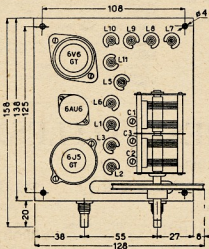


Fig. 1.

This means that as the dial spindle is centrally located in the dial escutcheon, but to the right hand side of the chassis, a space is available to the right of the condenser for an 807, plate tank, and plug-in coil to be mounted on an auxiliary chassis. It can be seen that a very compact five-band 50 watt r.f. unit can be built which would not be much wider than the dial escutcheon or much deeper than $5\frac{1}{2}$ ", so that the whole transmitter would not be any larger than the average Amateur's v.f.o.

A large modern dial is fitted to the exciter, directly calibrated for the five bands, and by following the alignment data, accurate calibrations are obtained, if the trimmers and slugs are set with the aid of a good frequency meter.

A study of Fig. 2 will show how the exciter operates. A 6J5 is used as a

Clapp oscillator with three separate inductances, L1, L2 and L3, each slug tuned. The tuning condenser is divided into four sections of 50 pF. each, and are switched as follows:—

- 80 metres—Two 50 pF. sections in parallel (C4, C5) and inductance L1.
- 40 and 10 metres—One 50 pF. section (C6) and inductance L2.
- 20 and 15 metres—One 50 pF. section (C7) and inductance L3.

Trimmers are used to adjust the high frequency end of the bands, and the inductance slugs the low ends.

With the above combinations, the inductances are of such value that L1, in combination with the condenser sections mentioned previously, covers 3.5 to 4 Mc.

Similarly L2 covers 7 to 7.45 Mc. on its fundamental, and L3 covers 3.5 to 3.8 Mc. also on its fundamental.

The 6AU6 is capacity coupled from the oscillator cathode, and acts as an isolator with a 5,000 ohm plate resistance, for 80 and 40 metre operation, and on the 14, 21 and 28 Mc. bands as a doubler, with slug tuned plate inductances. The 6V6GT output stage has a series of five slug tuned inductances in the plate circuit, each tuned for output

The dotted lines show the suggested external connections, and it will be noted that if a 35,000 ohm potentiometer is used in the 6V6 screen, a control of excitation to your final is obtained.

The unit supplied to us was set up and tested for oscillator drift and stability, and was found quite adequate for Ham purposes.

It is recommended, however, that a regulator tube be used to control the voltage to the oscillator to prevent any frequency shift with mains voltage changes.

Another point is stressed. It is necessary to see that the h.t. supplied to the exciter is 400 volts as recommended, a drop of 50 volts makes a big difference to the output, so see that it is 400 volts under load and an 807 will be driven fully on all bands.

The total current requirements of the exciter are about 50 Ma. at 400 volts, and with this h.t. supply, the following measured grid drive to an 807 was obtained (25,000 ohm grid resistor):—

80 Metres—Drive 8 Ma.
40 " " 4 "
20 " " 10 "
15 " " 3.7 "
10 " " 4 "

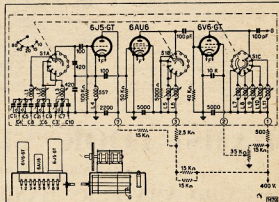


Fig. 2.

Band Mc.	Clapp Osc. (6J5)	Isolator (6AU6)	Power Amp. (6V6)	Final Output
3.5	3.5-4.0 Mc.	Aperiodic Amp. Amplifier 2.8 Mc.	3.5-4.0 Mc.	3.5-4.0 Mc.
7	7.0-7.45 "	Aperiodic Amp. Amplifier 7.26 "	7.0-7.45 "	7.0-7.45 "
14	3.5-3.8 "	D'bler 7.15 Mc. Doubler 14.2 "	14.0-14.5 "	14.0-14.5 "
21	3.5-3.6 "	D'bler 7.15 Mc. Tripler 21.25 "	21.0-21.5 "	21.0-21.5 "
28	7.0-7.45 "	D'bler 14.1 Mc. Doubler 28.2 "	28.0-28.8 "	28.0-28.8 "

on the band required. This stage operates as a straight amplifier on 80 and 40 metres, a doubler for 20 and 10 metres, and a tripler for 15 metres.

It is important to note here that the output to the following amplifier to be driven from the exciter is capacity coupling and if any attempt is made to connect a co-ax line, the added capacity of the co-ax will detune the inductances, and as only a limited range is available for adjustment, the inductances could not be resonated.

Provided the normal capacity coupling to an 807 is used, with a 25,000 ohm grid resistor, and the lead to the grid is kept short, everything will operate perfectly.

A multi-contact switch, S1 A, B, C, is used for band changing of all these circuits, so that drive to your final is obtainable on all bands at the flick of a switch.

These readings were taken without plate or screen voltage applied, and need to be reduced by 25 per cent. when the final is loaded.

As an experiment, pin 1 of the 6V6 socket was grounded and a metal 6L6 we had on hand plugged in. After resetting the slugs on the inductances, it was found that for the same plate and screen voltages, about 25 per cent. greater output was obtained.

Our opinion of the Geloso Signal Shifter is that any person starting out in Amateur Radio could not do better than get one of these units and follow it up with an 807 final. He would then have a cheap flexible transmitter for a minimum of cost, capable of transmitting on our five most used bands.

We are indebted to R. H. Cunningham Pty. Ltd. for making one of these units available for test.

AMATEUR CALL SIGNS

FOR MARCH AND APRIL, 1954

ADDITIONS

NEW SOUTH WALES
 2AN—R. Howland, 3 Balfour Ave., Caringbah.
 2FR—T. G. Donald, Lord Howe Island.
 2OQ—H. Capsey, 58 Elliston St., Chester Hill.
 2AGJ—Griffith Radio Club; Station: Rio Theatre, Banna Ave., Griffith; Postal: 43 Canal St., Griffith.
 2ALL—J. L. Leeds, 569 Fisher St., Broken Hill.
 2AOH—P. Higgins, 38 Ridding St., Fairfield.
 2AQW—J. S. Walker, 25 Shell Cove Rd., Neutral Bay.
 2AUF—C. I. Falconer, The Golf House, Terrigal Rd., Terrigal.
 2AUI—J. S. Innes, 120 MacPherson St., Crenmore.
 2AUP—K. Postler, 121 Brighton Bvde., North Bondi, Sydney.
 2AVC—E. C. Champion, 3 Crescent Ave., Ryde.
 2AVF—F. J. Fairleigh, 87 Bultze St., Dubbo.
 2AVS—E. Sundstrup, 10 Greenfield Ave., East Willoughby.

Victoria

3QB—W. J. Mills, 92 McDonald St., Mordialloc.
 3AKX—D. C. Kirton, 9 Elida St., East Melbourne.
 3ASP—B. R. Forbes, 28 Knight St., Shepparton.
 3ASS—S. S. George, C/o. 35H Transmitter, Lake Boga Rd., Swan Hill.

Queensland

4CP—H. F. Watts, Cr. Kilchener and Herries Sts., Toowoomba.
 4DG—K. D. M. Grace, Winchu St., Quilpie.
 4GF—E. C. Ginn, 23 Flemington St., Hendra.
 4IB—D. N. Bismire, Willis Island.
 4JY—G. W. Young, 41 Brae St., Coorparoo.
 4YF—C. J. Patterson, Fig Tree Pocket Rd., Fig Tree Pocket.

South Australia

5AF—A. S. Little, 32 Elder Trce., Dunleath Gardens.
 5GE—R. G. Pitts, 2 Beerworth St., Port Augusta.

Western Australia

6IW—A. F. Wreford, "Hill View," Frederick St., Gosnells.
 6VK—V. J. Kinyon; Station: C/o. Station 6AM, Northam; Postal: C/o. P.O., Northam.

Territories

8HO—H. T. Overend, C/o. R.T.C., Kavieng, T.N.G.
 8SP—R. Fleming, C/o. Australasian Petroleum Co., Port Moresby.

ALTERATIONS

NEW SOUTH WALES
 2KL—137 Booker Road, Booker Bay.
 2LU—88 Hood Street, Yagoona.
 2NE—10 Royalist Road, Crenmore.
 2OH—23 Blakesley Road, South Hurstville.
 2QX—142 King Georges Road, Lakemba.
 2WJ—C/o. O.T.C. Receiving Station, Bringley.
 2VO—41 Boundary Street, Spion Kop, Pelaw Main.
 2ZB—30 Juno Parade, Bankstown East.
 2ADT—33 Rose Street, Inverell.
 2AFQ—Station: Bobbin Head Road, Turramurra; Postal: C/o. Raymac Supplies Pty. Ltd., G.P.O. Box 379, Sydney, N.S.W.
 2AOU—25 Berrile Road, Beverly Hills.
 2APV—20 Melville Avenue, Strathfield.
 2ABS—534 Parramatta Road, Ashfield.
 2ART—Post Office Residence, Raymond Road, Glenbrook.
 2ASA—Tuggerawang, via Wyong.
 2AUA—20 Talbot Street, Peakhurst.
 2AVB—C/o. Post Office, Stockinbingal.
 2AWZ—1b Wharf Road, Marrackville.
 2AXG—35 Cliff Road, Wollongong.

Victoria

3CZ—Station: 2 Vincent St., East Melbourne; Postal: P.O. Box 27, Warburton.
 3JR—78 Leicestershire, West Preston.
 3OK—Station: 36 Stawell Street, Sale; Postal: C/o. Station 3G1, Sale.
 3QF—Cardif Grange, Avonsleigh.
 3QJ—17 Married Quarters, Balcombe Camp.
 3SL—Cambridge Road, Montrose.
 3SQ—35 Nepean Highway, Appandale.
 3WR—10 Restrover Parade, Mont Albert.
 3AAW—Melbourne Telecommunication Unit, R.A.A.F. Station, Canterbury.
 3AIB—Station: Hazelwood Road, East Warburton; Postal: P.O. Box 27, Warburton.
 3AIC—101 Nepean Highway, Seaford.
 3AKP—19 Princes Street, Mildura.
 3ALE—72 Orr Street, Shepparton.
 3AMH—208 Eyre Street, Ballarat.
 3AMC—121 Park Street, Parkville.
 3AMZ—1007 Nepean Highway, Moorabbin.
 3AOB—122 Hayes Street, Shepparton.
 3ARH—33 Henty Street, Casterton.
 3ARB—61 Primrose Street, Essendon.

Queensland

4CF—47 University Road, Mitchelton, Brisbane.
 4DC—123 Esplanade, Cairns.
 4KE—Edward Street, Charleville.
 4RA—Douglas Street, Brighton.
 4SD—Patterson Street, Wynnun North, Brisbane.
 4SG—South Street, Toowoomba.
 4SS—35 Wynnot Street, West End, Brisbane.
 4ZZ—House No. 531, Q.H.C., Doyle Street, Haxlaxton, Toowoomba.

South Australia

5GH—18 Grantley Avenue, Daw Park.
 5KU—1 Bond Street, Mount Gambier.
 5LR—Main Road, Blackwood.
 5PW—12 River Street, West Marden.
 5RW—3 Silver Avenue, South Brighton.
 5TW—3 Jardine Street, Mt. Gambier.
 5WX—Radio Maintenance Section, C/o. D.C.A., Oodnadatta.
 5XK—97 North Terrace, College Park.

Western Australia

6GA—54 State Street, Victoria Park.
 6SR—430 Great Eastern Highway, Midland Junction.

Tasmania

7AF—90 Hampden Road, Battery Point.
 7PF—9 Forest Road, Launceston.
 7PJ—"Hillmorton," East Risdon Road, Lindisfarne.

Territories

8AW—C/o. R.T.C., Wewak, T.N.G.
 8WG—Forres Crescent, Port Moresby.

DELETIONS

New South Wales: VKs 2CN (now operating under VK4CP), 2ADA, 2ASL.

Victoria: VKs 3CF (now operating under VK2AUF), 3SB, 3SP (now operating under VK2SP), 3YF (now operating under VK4YF), 3YV, 3ADC, 3AFK, 3ASW (now operating under VK2AQW), 3AVK (now operating under VK6VK).

Queensland: VKs 4FO, 4HO (now operating under VK3FO).

South Australia: VKs 5DW (now operating under VK5IW), 5JQ, 5KI (now operating under VK2AUP).

Western Australia: VK6KD.

Territories: VK1AF (now operating under VK5AF).

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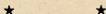
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DX ACTIVITY BY VK3AHH†

DX HIGHLIGHTS

After the recent completion of the power installation at Mawson, Antarctica, Bill Store, VK1EG, has now commenced regular Ham Radio operation. Bill shares schedules with VK1DY, of Heard Island, at 1600z on 7040 Kc. (from 1DY, 3CX).

VE3CCK anticipates to operate as FP8AJ, August, 1954. His operating frequencies will be on 7 and 14 Mc. (from 3Z0).

During April, FP08AJ, for three days active from Clipperton Island, gave many a DXer a new country.

BAND CONDITIONS

3.5 Mc.: On this band reasonable conditions to North America and the Pacific Islands have been reported and observed here. When activity existed, signals were quite good between 0900z and 1300z.

Charlie IAC heads the list with W8*, W7*, W9* on W, and ZL* on 1400. Frank 3QL and Dick 3QK heard DU7SV, W. Reg 3GX worked VQ8G*, while Fred 3YS reports W and DU7SV, also heard by Bob 3ZF. Lin 3ABR spoke to VK1AC*. Ray 3ATN tried his best on this band, phoning with VK1AC*, VQ30K*, and hearing DU7SV. Norman Clarke heard VK1AC. 3AHK log shows W8*, ZK1B3*, VK1AC* and DU7SV.

7 Mc.: Conditions on this band remained relatively good to all continents. North, Central and South American conditions prevailed following between 0900z and 1300z. North Africa and Europe were workable via both short path (1800-2000) and long path, rather early around 0400-0600z. The Far East and Pacific Islands were represented between 0600z and 1400z.

As our friends in W land can easily be worked on this band, no special mention of such QSOs is necessary and we have IAC reports concerning KP4AB*, YE1Z3*, VK1AC* followed by Peter 2FA with FK8AE*. 3QL reports CN8FL* and XELLA. KPAUH, CT1DJ, LZ2KAC, Noel 3AHK keyed with KH6*, JA*, and KP3AB*. Don 3PV3APY reports KP3AB* who was also worked by 3YS. Lance 3JA has another list with 3CG*, JA* and KP3AB*. KP4CC, OZ3BX, CT1VB, OH1SU, ZB2A, SM, DL, KP3AB, GUJFF, LA2Z, CN2BO, ON4CB, 3AB9A, and 3AB9O continues the flow of good ones with T1P2*, YV3DE*, KP3AB*, JA*, KP4CQ* and ZJ0AA, VR3A, KL7, Dave 3ADW QSO'ed 3AN2L* and heard G3HIL (phone) and SM, DL. Kevin 3ABR presents his DX log with HP3FL*, CO2BU*, CO2LL*, XE23H* (all on phone); followed by 3ATN who spoke to HP3FL*, CO2BU*, KL7* and KG6*. Norm 3AXX contacted G2BVN* and JA*. Our s.w.l.s. report: Eric 3BRS15B, HP3FL (phone), F4SVN, KL7, 3Q4B, 3Q4C, 3Q4D, 3Q4E, 3Q4F, 3Q4G, 3Q4H, 3Q4I, 3Q4J, 3Q4K, 3Q4L, 3Q4M, 3Q4N, 3Q4O, 3Q4P, 3Q4Q, 3Q4R, 3Q4S, 3Q4T, 3Q4U, 3Q4V, 3Q4W, 3Q4X, 3Q4Y, 3Q4Z, 3Q5A, 3Q5B, 3Q5C, 3Q5D, 3Q5E, 3Q5F, 3Q5G, 3Q5H, 3Q5I, 3Q5J, 3Q5K, 3Q5L, 3Q5M, 3Q5N, 3Q5O, 3Q5P, 3Q5Q, 3Q5R, 3Q5S, 3Q5T, 3Q5U, 3Q5V, 3Q5W, 3Q5X, 3Q5Y, 3Q5Z, 3Q6A, 3Q6B, 3Q6C, 3Q6D, 3Q6E, 3Q6F, 3Q6G, 3Q6H, 3Q6I, 3Q6J, 3Q6K, 3Q6L, 3Q6M, 3Q6N, 3Q6O, 3Q6P, 3Q6Q, 3Q6R, 3Q6S, 3Q6T, 3Q6U, 3Q6V, 3Q6W, 3Q6X, 3Q6Y, 3Q6Z, 3Q7A, 3Q7B, 3Q7C, 3Q7D, 3Q7E, 3Q7F, 3Q7G, 3Q7H, 3Q7I, 3Q7J, 3Q7K, 3Q7L, 3Q7M, 3Q7N, 3Q7O, 3Q7P, 3Q7Q, 3Q7R, 3Q7S, 3Q7T, 3Q7U, 3Q7V, 3Q7W, 3Q7X, 3Q7Y, 3Q7Z, 3Q8A, 3Q8B, 3Q8C, 3Q8D, 3Q8E, 3Q8F, 3Q8G, 3Q8H, 3Q8I, 3Q8J, 3Q8K, 3Q8L, 3Q8M, 3Q8N, 3Q8O, 3Q8P, 3Q8Q, 3Q8R, 3Q8S, 3Q8T, 3Q8U, 3Q8V, 3Q8W, 3Q8X, 3Q8Y, 3Q8Z, 3Q9A, 3Q9B, 3Q9C, 3Q9D, 3Q9E, 3Q9F, 3Q9G, 3Q9H, 3Q9I, 3Q9J, 3Q9K, 3Q9L, 3Q9M, 3Q9N, 3Q9O, 3Q9P, 3Q9Q, 3Q9R, 3Q9S, 3Q9T, 3Q9U, 3Q9V, 3Q9W, 3Q9X, 3Q9Y, 3Q9Z, 3Q0A, 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TASMANIA

April was a very interesting period for the v.h.f. gang. The monthly meeting of the Group was well attended and a very interesting and informative lecture was presented by Mr. Bert Sinfeld on the "Voltohmyst," giving those present plenty of ideas for another project.

The direct finding field day was a very enjoyable outing. Stations were ZHL as control station and 2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H, 2I, 2J, 2K, 2L, 2M, 2N, 2O, 2P, 2Q, 2R, 2S, 2T, 2U, 2V, 2W, 2X, 2Y, 2Z, 2AA, 2AB, 2AC, 2AD, 2AE, 2AF, 2AG, 2AH, 2AI, 2AJ, 2AK, 2AL, 2AM, 2AN, 2AO, 2AP, 2AQ, 2AR, 2AS, 2AT, 2AU, 2AV, 2AW, 2AX, 2AY, 2AZ, 2BA, 2BB, 2BC, 2BD, 2BE, 2BF, 2BG, 2BH, 2BI, 2BJ, 2BK, 2BL, 2BM, 2BN, 2BO, 2BP, 2BQ, 2BR, 2BS, 2BT, 2BU, 2BV, 2BW, 2BX, 2BY, 2BZ, 2CA, 2CB, 2CC, 2CD, 2CE, 2CF, 2CG, 2CH, 2CI, 2CJ, 2CK, 2CL, 2CM, 2CN, 2CO, 2CP, 2CQ, 2CR, 2CS, 2CT, 2CU, 2CV, 2CW, 2CX, 2CY, 2CZ, 2DA, 2DB, 2DC, 2DD, 2DE, 2DF, 2DG, 2DH, 2DI, 2DJ, 2DK, 2DL, 2DM, 2DN, 2DO, 2DP, 2DQ, 2DR, 2DS, 2DT, 2DU, 2DV, 2DW, 2DX, 2DY, 2DZ, 2EA, 2EB, 2EC, 2ED, 2EE, 2EF, 2EG, 2EH, 2EI, 2EJ, 2EK, 2EL, 2EM, 2EN, 2EO, 2EP, 2EQ, 2ER, 2ES, 2ET, 2EU, 2EV, 2EW, 2EX, 2EY, 2EZ, 2FA, 2FB, 2FC, 2FD, 2FE, 2FF, 2FG, 2FH, 2FI, 2FJ, 2FK, 2FL, 2FM, 2FN, 2FO, 2FP, 2FQ, 2FR, 2FS, 2FT, 2FU, 2FV, 2FW, 2FX, 2FY, 2FZ, 2GA, 2GB, 2GC, 2GD, 2GE, 2GF, 2GG, 2GH, 2GI, 2GJ, 2GK, 2GL, 2GM, 2GN, 2GO, 2GP, 2GQ, 2GR, 2GS, 2GT, 2GU, 2GV, 2GW, 2GX, 2GY, 2GZ, 2HA, 2HB, 2HC, 2HD, 2HE, 2HF, 2HG, 2HH, 2HI, 2HJ, 2HK, 2HL, 2HM, 2HN, 2HO, 2HP, 2HQ, 2HR, 2HS, 2HT, 2HU, 2HV, 2HW, 2HX, 2HY, 2HZ, 2IA, 2IB, 2IC, 2ID, 2IE, 2IF, 2IG, 2IH, 2II, 2IJ, 2IK, 2IL, 2IM, 2IN, 2IO, 2IP, 2IQ, 2IR, 2IS, 2IT, 2IU, 2IV, 2IW, 2IX, 2IY, 2IZ, 2JA, 2JB, 2JC, 2JD, 2JE, 2JF, 2JG, 2JH, 2JI, 2JJ, 2JK, 2JL, 2JM, 2JN, 2JO, 2JP, 2JQ, 2JR, 2JS, 2JT, 2JU, 2JV, 2JW, 2JX, 2JY, 2JZ, 2KA, 2KB, 2KC, 2KD, 2KE, 2KF, 2KG, 2KH, 2KI, 2KJ, 2KK, 2KL, 2KM, 2KN, 2KO, 2KP, 2KQ, 2KR, 2KS, 2KT, 2KU, 2KV, 2KW, 2KX, 2KY, 2KZ, 2LA, 2LB, 2LC, 2LD, 2LE, 2LF, 2LG, 2LH, 2LI, 2LJ, 2LK, 2LL, 2LM, 2LN, 2LO, 2LP, 2LQ, 2LR, 2LS, 2LT, 2LU, 2LV, 2LW, 2LX, 2LY, 2LZ, 2MA, 2MB, 2MC, 2MD, 2ME, 2MF, 2MG, 2MH, 2MI, 2MJ, 2MK, 2ML, 2MN, 2MO, 2MP, 2MQ, 2MR, 2MS, 2MT, 2MU, 2MV, 2MW, 2MX, 2MY, 2MZ, 2NA, 2NB, 2NC, 2ND, 2NE, 2NF, 2NG, 2NH, 2NI, 2NJ, 2NK, 2NL, 2NM, 2NN, 2NO, 2NP, 2NQ, 2NR, 2NS, 2NT, 2NU, 2NV, 2NW, 2NX, 2NY, 2NZ, 2OA, 2OB, 2OC, 2OD, 2OE, 2OF, 2OG, 2OH, 2OI, 2OJ, 2OK, 2OL, 2OM, 2ON, 2OO, 2OP, 2OQ, 2OR, 2OS, 2OT, 2OU, 2OV, 2OW, 2OX, 2OY, 2OZ, 2PA, 2PB, 2PC, 2PD, 2PE, 2PF, 2PG, 2PH, 2PI, 2PJ, 2PK, 2PL, 2PM, 2PN, 2PO, 2PP, 2PQ, 2PR, 2PS, 2PT, 2PU, 2PV, 2PW, 2PX, 2PY, 2PZ, 2QA, 2QB, 2QC, 2QD, 2QE, 2QF, 2QG, 2QH, 2QI, 2QJ, 2QK, 2QL, 2QM, 2QN, 2QO, 2QP, 2QQ, 2QR, 2QS, 2QT, 2QU, 2QV, 2QW, 2QX, 2QY, 2QZ, 2RA, 2RB, 2RC, 2RD, 2RE, 2RF, 2RG, 2RH, 2RI, 2RJ, 2RK, 2RL, 2RM, 2RN, 2RO, 2RP, 2RQ, 2RR, 2RS, 2RT, 2RU, 2RV, 2RW, 2RX, 2RY, 2RZ, 2SA, 2SB, 2SC, 2SD, 2SE, 2SF, 2SG, 2SH, 2SI, 2SJ, 2SK, 2SL, 2SM, 2SN, 2SO, 2SP, 2SQ, 2SR, 2SS, 2ST, 2SU, 2SV, 2SW, 2SX, 2SY, 2SZ, 2TA, 2TB, 2TC, 2TD, 2TE, 2TF, 2TG, 2TH, 2TI, 2TJ, 2TK, 2TL, 2TM, 2TN, 2TO, 2TP, 2TQ, 2TR, 2TS, 2TT, 2TU, 2TV, 2TW, 2TX, 2TY, 2TZ, 2UA, 2UB, 2UC, 2UD, 2UE, 2UF, 2UG, 2UH, 2UI, 2UJ, 2UK, 2UL, 2UM, 2UN, 2UO, 2UP, 2UQ, 2UR, 2US, 2UT, 2UU, 2UV, 2UW, 2UX, 2UY, 2UZ, 2VA, 2VB, 2VC, 2VD, 2VE, 2VF, 2VG, 2VH, 2VI, 2VJ, 2VK, 2VL, 2VM, 2VN, 2VO, 2VP, 2VQ, 2VR, 2VS, 2VT, 2VU, 2VV, 2VW, 2VX, 2VY, 2VZ, 2WA, 2WB, 2WC, 2WD, 2WE, 2WF, 2WG, 2WH, 2WI, 2WJ, 2WK, 2WL, 2WM, 2WN, 2WO, 2WP, 2WQ, 2WR, 2WS, 2WT, 2WU, 2WV, 2WW, 2WX, 2WY, 2WZ, 2XA, 2XB, 2XC, 2XD, 2XE, 2XF, 2XG, 2XH, 2XI, 2XJ, 2XK, 2XL, 2XM, 2XN, 2XO, 2XP, 2XQ, 2XR, 2XS, 2XT, 2XU, 2XV, 2XW, 2XX, 2XY, 2XZ, 2YA, 2YB, 2YC, 2YD, 2YE, 2YF, 2YG, 2YH, 2YI, 2YJ, 2YK, 2YL, 2YM, 2YN, 2YO, 2YP, 2YQ, 2YR, 2YS, 2YT, 2YU, 2YV, 2YW, 2YX, 2YY, 2YZ, 2ZA, 2ZB, 2ZC, 2ZD, 2ZE, 2ZF, 2ZG, 2ZH, 2ZI, 2ZJ, 2ZK, 2ZL, 2ZM, 2ZN, 2ZO, 2ZP, 2ZQ, 2ZR, 2ZS, 2ZT, 2ZU, 2ZV, 2ZW, 2ZX, 2ZY, 2ZZ, 2AA, 2AB, 2AC, 2AD, 2AE, 2AF, 2AG, 2AH, 2AI, 2AJ, 2AK, 2AL, 2AM, 2AN, 2AO, 2AP, 2AQ, 2AR, 2AS, 2AT, 2AU, 2AV, 2AW, 2AX, 2AY, 2AZ, 2BA, 2BB, 2BC, 2BD, 2BE, 2BF, 2BG, 2BH, 2BI, 2BJ, 2BK, 2BL, 2BM, 2BN, 2BO, 2BP, 2BQ, 2BR, 2BS, 2BT, 2BU, 2BV, 2BW, 2BX, 2BY, 2BZ, 2CA, 2CB, 2CC, 2CD, 2CE, 2CF, 2CG, 2CH, 2CI, 2CJ, 2CK, 2CL, 2CM, 2CN, 2CO, 2CP, 2CQ, 2CR, 2CS, 2CT, 2CU, 2CV, 2CW, 2CX, 2CY, 2CZ, 2DA, 2DB, 2DC, 2DD, 2DE, 2DF, 2DG, 2DH, 2DI, 2DJ, 2DK, 2DL, 2DM, 2DN, 2DO, 2DP, 2DQ, 2DR, 2DS, 2DT, 2DU, 2DV, 2DW, 2DX, 2DY, 2DZ, 2EA, 2EB, 2EC, 2ED, 2EE, 2EF, 2EG, 2EH, 2EI, 2EJ, 2EK, 2EL, 2EM, 2EN, 2EO, 2EP, 2EQ, 2ER, 2ES, 2ET, 2EU, 2EV, 2EW, 2EX, 2EY, 2EZ, 2FA, 2FB, 2FC, 2FD, 2FE, 2FF, 2FG, 2FH, 2FI, 2FJ, 2FK, 2FL, 2FM, 2FN, 2FO, 2FP, 2FQ, 2FR, 2FS, 2FT, 2FU, 2FV, 2FW, 2FX, 2FY, 2FZ, 2GA, 2GB, 2GC, 2GD, 2GE, 2GF, 2GG, 2GH, 2GI, 2GJ, 2GK, 2GL, 2GM, 2GN, 2GO, 2GP, 2GQ, 2GR, 2GS, 2GT, 2GU, 2GV, 2GW, 2GX, 2GY, 2GZ, 2HA, 2HB, 2HC, 2HD, 2HE, 2HF, 2HG, 2HH, 2HI, 2HJ, 2HK, 2HL, 2HM, 2HN, 2HO, 2HP, 2HQ, 2HR, 2HS, 2HT, 2HU, 2HV, 2HW, 2HX, 2HY, 2HZ, 2IA, 2IB, 2IC, 2ID, 2IE, 2IF, 2IG, 2IH, 2II, 2IJ, 2IK, 2IL, 2IM, 2IN, 2IO, 2IP, 2IQ, 2IR, 2IS, 2IT, 2IU, 2IV, 2IW, 2IX, 2IY, 2IZ, 2JA, 2JB, 2JC, 2JD, 2JE, 2JF, 2JG, 2JH, 2JI, 2JJ, 2JK, 2JL, 2JM, 2JN, 2JO, 2JP, 2JQ, 2JR, 2JS, 2JT, 2JU, 2JV, 2JW, 2JX, 2JY, 2JZ, 2KA, 2KB, 2KC, 2KD, 2KE, 2KF, 2KG, 2KH, 2KI, 2KJ, 2KK, 2KL, 2KM, 2KN, 2KO, 2KP, 2KQ, 2KR, 2KS, 2KT, 2KU, 2KV

Many contacts were made with country stations during April on 144 Mc. 2WH, of Forbes, was worked by 2ANF on nightly sked, also by 2AJZ and 2NP. 2GU, Canberra, was heard with a good signal working 2HO, 2ANF and 2AJZ. 2AGY, Newcastle, was worked seven consecutive nights on phone by 2HE, while 2RU has been working most Sydney stations.

About midday on 25th April, 2WH at Forbes heard 3RR on 144 Mc.—nice going Hugo, pity there was no contact. 2TA, in Young, is getting 6146s going on 144 Mc.

On 50 Mc. activity improved somewhat. 2ANF worked 2TC at Young for the first time on 26th April. 2TC was also heard by 2RU at Gosford during that contact. 2ADT at his new location at Inverell is reported to have worked 4CU on 50 Mc., so watch out for these stations.

Other Sydney stations heard on 50 Mc. were 2ARM, 2HE, and 2HO.

Now here is a very interesting note on neutralising v.h.f. receivers: The method of neutralising v.h.f. triodes, e.g. 6AK5, etc., by cutting off one heater pin appears to be unsuitable. A test of this method in which a cascade was neutralised by inserting a duft tube, minus pin 3, proved that the neutralising coil had to have considerable inductance. The receiver, with 6AK5, the converter was very much out of neutralisation and showed an excessive noise figure.

The converter was re-neutralised using the method of disconnecting the heater voltage, but still leaving the heater by-pass intact. Noise figure tests proved that neutralisation was correct and subsequent tests on replacement with other 6AK5s showed no change of neutralisation.

It would appear that internal capacitance of the 6AK5 is considerably different when only one side of the heater is connected to ground for r.f. This effect may well apply to other tube types, such as the 6J6 or 12AT7, but was not tried. That was the findings of John 2ANF who will be interested in any comments.

To those who wish to keep abreast with v.h.f. activities, listen to the v.h.f. broadcast from 2EI each Sunday night at 1930 hours when details of field days, lectures, and other items of interest are given. These broadcasts are originated on 2 mx and relayed on 6 mx—2APQ.

The annual election of office-bearers took place at the v.h.f. meeting last month and the following were successful: JJO, Herb Stevens, President; 30J, Bob Stevens, Secretary; 3LN, Len Moncur, Publicity and C.D.E.N. Organiser; IACH, Cedric Symthe, Vice-President. After the formal business, a discussion took place on the field days, firstly 3ADU went to Bald Hill near Bacchus Marsh, 3YS to Arthur's Seat at Koorla, 3LN Oliver's Hill, Frankston, 30J to Koorla.

The big news was that 3YS was successful in working FFF and 7BQ and as this news spread throughout the afternoon, all interest in the band drifted in favour of VK7 and all beams went southwards. However, the VK7s were not herad in Melbourne, or by 3LN at Frankston, and as the day was not conducive to temperature inversion, it seems likely that VK7 contacts could be made from Arthur's Seat on any normal occasion. So in future field days, the gang will make sure the "seat" is occupied by some portable station.

The "Fox" Hunt was the most successful yet, with six mobiles in the field. On the first run

the "fox" succeeded in evading the hounds. On the second, 3ALY made the catch, but whilst the fox was reporting back to control 3YS and 3ACH were right at hand. On the third run to the final location under the bridge on the Boulevard, all hounds were close, but no one was successful whilst the fox was in the move. A total of 12 of the gang had supper under the bridge as the rain had recommenced. Three more mobiles are reported to be under construction for the next run and we are now short of home stations.

With the appearance of JAGD at Dinkel on 2 m_x, considerable possibility of DX from Melbourne is apparent, with 3ZL and 3GM at Collar, 3AV at Colne, 3JQ Warrnambool, 3YR Geelong, 3JG Ballarat, 3JH Melbourne has made contact with JACH and has heard 3JLN and 3BQ, the contact with Cedric being a land record for the State. JAGD was using 10w. to a four element beam atop his 80 ft tower. The 3MR makes an expedition to Reed's Lookout in the near future, the hope of working VK3, but no go as conditions were very poor, however a report has come from the 3MR that he did make contact with VK3. The beam was not swung in VK2 direction. JATB has left for abroad, and Melbourne station has been closed down until the arrival of Benalla area soon on 2 m_x-3JLN.

Further to my remarks on the 12AT7 last month, Feb. "CQ" has an interesting circuit of an oscillator-multiplier using the two halves of the triode with the controlling crystal connected across the cathodes. It is a modification of the circuit in the 1947 *Radio* magazine. Butler in England, during the war years. Feed-back is obtained by connecting a 30 pF. capacitor between the plates, and the output of the harmonic frequency desired can be taken from the first or second output. Output up to the 17th harmonic can be used to drive another 12AT7 to reach the 400 Mc. region. This appeals to my Scotch instincts. A tube heater has even been here, yet, the 6BQ7, but is supported by a 6AV6 which has a heater cathode insulation for vacuum circuits.

Curious as to the 12AT7, I looked up my Handbook and noted with satisfaction that the maximum d.c. heater-cathode voltage is 250v. Another interesting fact too is that when used in a push-pull grounded grid circuit, the overall input impedance is approx. 360 ohms at 250v. If a 250v. plate supply with grid to cathode bias of -2v. and -1v. is used. As a grounded grounded grid the gain is about 10 db at 200 Mc. and 6 db at 400 Mc. with a noise figure of 8, which is pretty low as amplifiers go. Push-pull operation will give better figures as the noise figure can be improved with the tube capacities in order.

I seem to remember Reg SRK having a 258 MHz pickup unit but hers comes in the form of a complete wide-band preamp for the noisy areas where transmission line pick-up is hard to eliminate. Using a 6BQ7 (substitute 12AT7 here) in a cascade, the relay, power supply and preamp. unit fits into a can about 10 x 6 in. and the pickup unit is a 100 ohm transmission line. The high output to the 300 ohm transmission line enables the converter to be operated at lower gain and so reduces the noise very considerably. This might be worth trying Tom, since you complain of a high noise level at

Clem Glick couldn't hear anything from SHR through the radio and appears as though he has been on the Plains will need a relay on Mt. Lof before we will succeed in working the VKs on 144 Mc. Mt. Crawford would make another good launching ground, too, for some 2 mx might be able to get the last part of the activity in Adelside seems to be centered on 144 Mc. 6 and 2 mx "quadruplex" link of Keith SMT (on 6 mc) running a number of converters, with Col SHR, Doug SDD and Ken SKC on 2 mx. Hence everybody can hear and speak their own language. Only one of the 4 have to be careful of my check "back-chat."

On 6 mx we still have the regulars with Brian 5CA, Ron 5NL, Charlie 5ON, Joe 5JO and Doc 5MD working most nights. My gear is in the shack and it's too cold for me down there—and anyhow, it's only when an Intrastate Contest is on that the President needs to come on the air, isn't it Warwick? Notice the 300 ohm line flapping in the breeze at your QTH, somebody cut it, eh?

My scribe, Ray 5BT, apart from giving me most of my local news, this time pointed out that the article on the ASB Conversion was attributed to "R. G. Porter, 5PU," and I must hasten to apologise to Bob ROPER, 5PU, because the fault was entirely mine.—SXU.

As no notes have been forwarded from Tasmania for some months, these notes will cover the general conditions on the v.h.f. bands in Tasmania, also the activities in the various bands of the v.h.f. spectrum during the last few seasons. The 50 Mc. has not appeared to have been used as much as in the more Northern States and it is considered by VKs that they are handicapped by being too far South, this possibly accounted for the fact that only a few stations have been active on this band. Stations who have operated on 50 Mc. over the last two years have been 7AB, 7AJ, 7BQ, 7LZ, 7P and 7PF. Checking back my log, over the past few years I have noted that there are unusual numbers of stations working here, late in the season.

[illegible]

3YS was heard by 7LZ calling CQ on m.c.w. at 1503 hours on Sunday, 11th April, contact was established and 3YS's signal was audible in Launceston until he concluded at approx. 1645 hours. During this time 3YS's were made both on phone and m.c.w. with signals ranging from 1503 to 1645 hours. 3YS on phone at 1610 hours; no other VK3's were heard. This makes the fifth consecutive year that VK1-VK3 contacts have been made and in practically every instance the Tasmanian stations have operated from no higher than 50 metres above sea level and from inland locations. Tasmanian operators would like to see the calling frequencies of Interstate stations published in "Amateur Radio."—7LZ.

FEDERAL, QSL, and DIVISIONAL NOTES



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QSL Bureau: Inwards—J. Files, VK4PZ, Wanda St., Buranda; Outwards—Miss Clair O'Brien, 93 Jardine St., Stafford.

FEDERAL

LIMITED A.O.C.P.

Under the heading "New Deal For Radio Hams" in the daily press on 7th May, Mr. Anthony, Postmaster-General, announced amendments to the Wireless Telegraphy Regulations to allow the issue of licenses to applicants who pass the theory and regulation papers of the Amateur Operator's Certificate of Proficiency, but who do not sit for the usual more costly section of the examination. The age limit for the papers of the Amateur examination—either normal A.O.C.P. or the new Limited A.O.C.P.—had also been reduced from 18 years to 16 years, Mr. Anthony said.

Readers will recall reference to both these matters in these columns during the past year. Once again, by virtue of unity of the Amateur movement, the Wireless Institute of Australia has been the representative that brought about both privileges. The issuance of the Limited A.O.C.P. has been somewhat delayed by the necessity for an amendment to the Regulations under the Wireless Telegraphy Act, but is gratifying to know that applications for the license can now be made by those who have passed the examinations in theory and regulations.

Under the regulations covering the issuance of this new license, licensees are limited to operation in the regular Amateur frequency allocations from and including the 14 Mc. band. However, at any future date the Limited license holder may obtain the full A.O.C.P. qualification by merely sitting for and passing the Morse code test.

FEDERAL CONTESTS COMMITTEE

Under the Federal policy of forming the Federal Contests Committee in other than the Victorian Division with a view to giving the other Divisions an opportunity to gain experience and participate in Federal activities to some extent, the New South Wales Division has successfully completed the operation and organization of Federal Contests for the past few years. Although under changing administration that Division the members of the Committee changed during its term, it carried out the Contest activities in fine style and deserve the thanks of the Federal Council.

To relieve the New South Wales Division, the South Australian Division has now accepted the responsibility of operating the Federal Contests for the ensuing year. There is no doubt that this Division will do an excellent job of conducting this part of the Federal administration.

MEMBERS OF ADVISORY COMMITTEES FOR 1954

The following Amateur bands have been appointed to the Amateur Advisory Committees operating in each State of the Commonwealth to keep watch of the Amateur bands in an advisory capacity and draw the attention of licensed operators to incorrect operating practices and modes of transmission. The activity of the Advisory Committees has been the means of obviating official action by the Postmaster-General's Department, Wireless Branch, in relation to breaches of the Regulations governing the operation of Amateur Wireless Stations where such breaches have been committed by the operator of a station. The co-operation of all Amateurs will be the means by which our bands can be kept clear of "law breakers" and spurious radiations.

New South Wales

Mr. G. T. Bruce, VK3GT.
Mr. J. A. Lindsay, VK2AKR.
Mr. O. R. Pearce, VK2HV.
Mr. J. C. F. Pickles, VK4PF.
Mr. L. H. Taylor, VK2CL.
Mr. V. H. Wilson, VK3VW.

Victoria

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Mr. A. L. Brehaut, VK3SB.
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Mr. C. D. L. Tibbott, VK3GL.
Mr. D. R. Whitburn, VK3BY.
Mr. G. E. Wienscke, VK3GN.

SILENT KEY

It is with deep regret that we record the passing of:—
VK5BF—Francis George Miller,
April, 1954.
Ex-VK7CS—Cecil Scott, March, 1954.

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Mr. J. W. Tait, VK7RT.
Mr. R. J. Jena, VK7LJ.
Mr. K. A. Johnston, VK7RX.
Mr. W. W. Watson, VK7YV.

SWEDISH AWARD

1. The Vasteras Radio Club (Sweden) has decided to issue the W.A.V. (Worked All Vasteras) Certificate, obtainable by licensed Amateurs everywhere in the world.
2. The Certificate is based on contacts with Amateurs in Vasteras after 31st December, 1953.
3. Participants outside Europe (DX) shall, with QSL or other written verification, prove contacts with at least two Amateurs in Vasteras, equals 2 points.
4. Participants in Europe will have to prove by QSL cards or other written evidence that they have collected 10 points by working at least 10 Amateurs in Vasteras.
5. Applicants of the W.A.V. in LA-OH-OZ-SW will have to prove by QSL or other written evidence that they have collected 20 points by working Amateurs in Vasteras.
6. Each contact with Amateurs in Vasteras on all bands will count as one point. The same station may only be contacted ONCE on each band.
7. Applications for W.A.V. may be sent to "W.A.V. Manager," SMWSI, Emmausgatan 45 E, Vasteras, Sweden. Each entry must include QSLs or written verification on the claimed contacts, as well as a list of the contacts, calls, frequency, date of QSO, CW or Phone.
8. Cost: Four International Reply Coupons.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Harold Webber, VK3RJ, is at present en route to the U.S.A. on business. Later he will visit the U.S.A. He plans to make a few Ham visits in both countries as time permits. The Halterners sponsored expedition to the Clipperton Island was treated to a rough haul by the elements. En route to Clipperton, they ran into heavy seas which blew away their sails and the ultimate result was that they had been working hourly seals on 14109 Kc. on the way down and quite a few VK stations made the contact with a few Ham things got bad they sent out a blast for help

and a Mexican station owned by General Nájera, of the Mexican Army, heard their call and arranged for help to be sent. Finally they managed to get their other diesel going and made Clipperton, the weather still being heavy with big seas and gales. They were unable to land sufficient petrol to keep their power supply generator running for as long as they wished with a result that the contacts made with their station FOBAJ were not as numerous as would otherwise have been. The above has been pieced together from tidbits supplied by W2CC, VK5BO and VK3CX.

The Colombian Radio Society sponsored an expedition to the Desde Archipelago Colombiano de San Andres from 4th to 7th May. The expedition, which was allotted the prefix HK zero, was scheduled to use the 10, 20 and 40 mc bands. The Archipelago is situated in the Caribbean Sea near the coast of Nicaragua. Anyone who contacted the expedition will receive a special certificate on application to the Society.

VS1FL, Colin Turner, of 1 Polden Court, Jalan Kayu, Seletar, Singapore, is seeking VK QSOs on 7 Mc. He will QSL all contacts or reports.

The many friends of Major Ken Ellis, DL2KE, and holder of 14 other Amateur call signs during the past nine years, will be interested to learn that he is leaving the Army in June and will then take himself a wife.

XINP active on 14 Mc. during April with a bad note, gave various QTHs off the Australian coast. Claimed he was on a ship bound from Australia to the Orient and neither desired or would send QSLs. Later advice shows him giving his name as "Fag" and requesting QSLs via VK9YV. It's "London to a brick" on Alan VK9YV disclaiming all knowledge of his identity.

Treb BERS195 has received the following from ZBIE. "Most ZBI stations are operated by Service personnel whose stay at Malta is limited." (My own son has been there 19 months and no relief in sight—nothing limited about that, hi—VK3RJ.) ZBIE is a permanent Maltese resident and suggests it is better to send cards for unlisted ZBI stations than for relay as he "keeps track" of all the ZBI stations. His full QTH is Bob Galea, Casa Galea, Railway Road, Birkirkara, Malta.

From the same source comes, "ZBIAUV is ex-XADP, IIRP, HAIRP and GRAUV. VS1IN is a Baron, a Sir, and a Lt-Col., as well as being ex-AC4YN, GSYN, VU2YN and LASYC."

VS9AS at Aden, is ex-GCBBMU and is due to return to England in September next. Treb finally wiring a card out of VPSAK. He wore him down as he did AC4YN. Treb, like the Mounties, always gets his card.

NEW SOUTH WALES

The Annual General Meeting of the N.S.W. Division was held on the 24th April at Science House. The meeting was attended by a large group of members and was opened a little late by the President, Jim Corbin, 2YC.

Owing to the lack of further nominations for Council, the following five members of Council were re-elected: J. Corbin, 2YC; G. Bruce, 3GT; W. Lewis, 2YB; D. Pollard, 2ASW; S. Burke, 2EL. Two members remain to be co-opted to Council for the ensuing year.

Following on a discussion on the desirability of employing a paid Secretary for the Division, H. Puggott, 2ACH, volunteered to act as Hon. Secretary for 1954, and S. Burke, 2EL, decided that he would act as Hon. Treasurer for as long a period as he may be available.

There was a considerable amount of comment on the various aspects of the Institute's functions, and the President appealed again for any volunteers to assist in the work of the Institute in any way possible. It was pointed out that the Division will need many helpers during the year to take care of the various activities planned, so any members, and there must be, are invited to contact any member of Council and give offers of assistance.

SOUTH WESTERN ZONE

Bob 2XP at Dalton is active on 40 and 80 mc, using an AT3 with controlled carrier, semiconductor power. A new one in the zone is Harry Hilder, 2AFT, from near Griffith. I have it on good information that Harry was a pre-war operator in the days when they used 46s in the p.a. with the full 150 volts on the plate! Harry has recently moved down from Bourke and hopes to be on the breeze from Griffith in the near future.


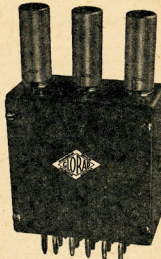
2PL reports that the Griffith Radio Club has been issued with a license to operate a tx at the Club Rooms, so all are requested to listen and call when the call sign comes along. Don 2RS at Albury is active on 80 mc, still on QRP while waiting for the a.c. to be hitched up to his QTH. Ray 2APZ out Leeton way is heard occasionally on 40 and 80 mc, still struggling with the AT3 for 20 mc. Ross and Geoff, 2FN and 2HQ, at Tumut, not heard for some time, must be cooking up some little thing down there. Remember fellows, YOU are ALL welcome at the zone hook-up on 80 mc at 1900 hours on Wednesday night, make it a must.

NORTH COAST AND TABLELANDS

Following on the recent successful Convention at Urunga, which was attended by many Hams from all parts of N.S.W., and for that

matter other places, activity on the North Coast is for the most part rather quiet. 2PA and Zone Officer 2AHH have been testing their respective beams and have worked out the polar diagrams for same, conclusions drawn—some are better than others. 2RK appears to be rather quiet, what about some notes to Sydney Norm? That goes for all you chaps in the zone also. Crief 2XO is on a Cook's tour at present. VR4AE and 2ABT have spent quite a bit of their time in the zone recently and visited quite a few of the boys. 2PA had to put him in a bath to get the mud off him before he could find out who he was. The same Pete and 2AQI of Armidale are working skeds on 6 mc.

The Inverell boys, aided and abetted by 2ADT, have gone all v.h.f. Amateur Radio has received a new lease of life since Jack got organised up there. 2LR had some vivid flood experiences—6 feet in the shack. The Darling Downs boys got together to get Len a new power supply, nice work chaps. 2AEY is picking paspalum seed, no not oakum. 2AHH was second in VK-ZL Contest in the c.w. section, and third in the phone section. Don't forget the weekly zone hook-up boys.

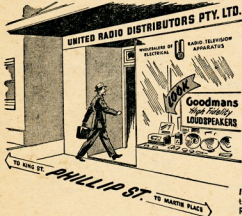
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763-9	3,000, 5,000	2, 3.7, 8, 12.5, 15	1	40-20,000	15	P.P. 2A3s, A or AB1 to V.C.	62/6
809-26	500	2, 3.7, 8, 12.5, 15	1	50-20,000	15	Line to Voice Coil	42/6
870-26	10,000	2 or 8	1	*20-20,000	**6	P.P. 6V6Gs or 807s as Triodes	57/6
871-9	10,000	2 or 8	1	*20-20,000	12	P.P. 6V6Gs or 807s as Triodes	81/-
872-9	10,000	3.7 or 15	1	*20-20,000	12	P.P. 6V6Gs or 807s as Triodes	81/-
891-22	6,600	83, 100, 125, 166, 250, 500	1	50-12,000	35	P.P. 807s, AB1 to Line	82/6
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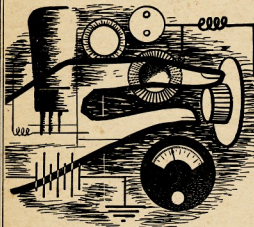
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HAM ADS

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Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received by 15th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line. Dealers' advertisements not accepted in this column.

FOR SALE—Following equipment in good sound working order is ex the estate of the late Mr. Ross Harris, and offers are invited for purchase of same: Edgystone Model 504 Com. Receiver; Edgystone Model 680 Com. Receiver; Bendix Freq. Meter with calibration book and crystals; BC455B 190-550 Kc. Receiver; TR1153B Xmitter-Receiver complete with 300 volt AC power supply (modified for 2 mx); ABC 300v. 300 Ma. power supply; Type 3 Mk. II. Transceiver fully modified and mounted in new leather carrying case, entirely complete; Edgystone Model 678 Modulation Meter; 2° Oscilloscope; Philscope Capacity Analyser; Complete 813 Transmitter, 3.5 to 28 Mc., VFO controlled, entirely complete with 811 modulators and speech amp., etc.; 40 ft. steel tower and 3 element rotary 20 mx beam, complete with turning mechanism and Selsyn indicators. Please make offers to: Mrs. R. C. Harris, 15 Denning St., Hawthorn, South Aust. Phone U 5043.

FOR SALE—Pair 2300 Mc. Transceivers (share present VK record for this band), 2C40 co-ax osc., 6J5, 6V6 audio or modr., 6SN7 quench osc., 6H6 quench rectifier, tone generators, co-ax dipoles, etc., both fully metered, full details in "QST." One has 3° spkr. built in, other has 955 super-regen. on 288 Mc. as alternate driver. Parabolic reflector 23 db gain, £18 pair. Also buffer-p.a. unit, 815-100TH flr. transfr., top grade components, spare 100TH, black crackle chassis £10. Also exciter or small TX, 6V8 co-ax (v.f.o. input), 1625 multiplier, 1625. All bands to 50 Mc., fully metered, flr. transfr., £6 K. McTaggart, 5 The Grove, South Camberwell.

HALLICRAFTERS SX28B Receiver, coverage 0.5 to 42 Mc., 6 bands, excellent condition, also 15 valve Radio Spectroscope (Pan Adaptor), complete in good condition. Offers above £70 and £20 to R. Thorley, Makerston St., Brisbane.

SELL—Quantity VHF gear inc. 522 Tx, on panel with meter, £12; Cascade Converter, in crackle finish case, £6; 829 Tubes, £4; many other tubes and parts; BC348 coil unit, dial, gaur, IF's, etc., complete, £5. Wanted Photographic gear including Enlarger. What offers? V. H. Wilson, 26 Wilson Street, Maroubra, N.S.W.

WANTED—Conversion Circuit for Bendix MN26C Receiver. Write J. Muntz, Nathalia, Vic.

WANTED—Dural Tubing 1" or 1½" for 2 or 3 element 14 Mc. beam. P.O. Box 72, Maryborough, Qld.

WANTED—One 6AK6. J. Humphrey, 33 Daley St., Bentleigh, Vic. XU 2329.

WANTED—3-4 Mc. Command Transmitter in good condition, complete. D. Graham, 110 Edinboro Street, Mt. Hawthorn, W.A.

in subs to "A.R." capitation fees and Convention dues. One new associate member was elected, Mr. G. Diamond from, via Jardee. At the first meeting of the new Council, held on 6th May, the following officer-bearers were appointed: Mr. G. Hayman, President; Mr. F. Tredrea; Vice-Presidents, 60R and 60GM; Jack Hoar and George Moss respectively; Secretary, Jack Mead; Editor, Mr. G. Clary; Bishop, Syd Editor and "Bulletin" Editor, 6EK, Don Graham; co-opted to the Council, 6RU, Jim Rumble, who is also QSL Officer; Contest Officer, 6VW, John Warren; JAG, 6VW, an Officer, 6RS, Ron Stiffold; Traffic Manager, 6LU, Lou Stagg; Lecture Organiser, 6AG, Wally Colson.

The winners of the trophies were announced. SEC, Eric Cornelius retains the Carl Cohen Trophy with his entry, a vintage 1934 250 cc lines with thorough description and circuit diagrams in real SEC style. The Hayman Trophy went to 60R for a well-constructed grid dip oscillator. Congratulations both members.

Herewith 6AG makes his bow, and wishes the new Sub-Editor, Don Graham, the best of luck, and what is more, every assistance from members to supply the copy.

TASMANIA

The May general meeting was held in the club rooms on Wednesday, 5th, and was very well attended. Members being present to allow the formation of a lecture committee consisting of "Ack" Anderson, Mark Hurburgh and Barney Watt, a working committee to set up the shack and workshop. It is intended to hold a social evening in the club rooms on Wednesday, 12th, and members are invited to attend and make it a success. Organisation is in the hands of Bob O'May and Ed Evans, and the evening will be a combination of pictures and competitions with supper to follow—ladies bring a basket! So don't forget—6th June at the club rooms.

Lecture for the evening was on 144 Mc. equipment and was given by L. Edwards and A. Johnson with a number of pieces of 2 mx gear on show. Athol also brought along his tape recorder with recording of a 2 mx transmission of 7MY at Sandford, a first class signal by the sound of it Alan. Hurray and Ed, that conversation that we can work that long awaited 2 mx DX.

That old wireless hifi has been busy again this time with a girl for Barney Watson (the first), and for Denis Robinson, TDR, a boy—congratulations boys.

Paid a flying visit to Queenstown recently, but unfortunately was only able to visit one shack—that of T.L.S. Len has quite a nice set-up, in rack mounted and the operating table backed to the wall with the controls and meters going up the chimney, tape recorder close handy and lathe and bench drill in the corner. Also had a talk with TDR who was working on a 2 mx and contemplating building a v.f.o., but missed TCF completely through lack of time, will make a point of looking you up next time. Cheers boys oh boy! Did you see those gangsters in last month's issue, last page—wow!

Opinions vary as to the success of the 2 mx network for providing communication between the clubs. I think the network which was held in Hobart recently, but I think taking all into consideration it was reasonably successful. Two mx networks were provided, with one at the boat, patrol boat, finishing line and the rowing headquarters at Buckingham rowing sheds.

Visited the TDH domicile at Montague Bay, but found it a little tricky to get to. The rowing hook-up and found Dave digging post holes—not for antenna poles, but for a fence. Have to be a bit of a fencer, but I think it will be a good idea to have a fence around the club.

Heard a very pertinent enquiry emanating from the TTY from a member who wanted to know whether the H.E.C. has a license for that noise generator, and if not, why not. Couldn't read you very well Bill, the Hydro were on the frequency (and all others). R.L. Edwards note!

I have it from the best authority that the earth connection in the other end of the cable was not a natural cause, but rather unnatural ones. Joe TBJ climbed up for a bit of top shelf stuff. First the shelf collapsed, then the bench underneath, then the ATS under the bench. Results were a cut hand and the ATS was to be wrecked anyway. Better leave that top shelf stuff alone! Joe; now you know where he hides it Mary!

NORTH WESTERN ZONE

A recent visitor to the North West was Geoff Campbell from Launceston, who visited a couple of local shacks including 75F and TWA, and was very impressed with TWA's home-made 2 mx. He took a lot of interest in the circuit. Recent high speed c.w. signals, which in first appeared to be a commercial, turned out to be 7UW with an automatic key working

a grid blocking circuit without any trace of chirps or clicks. A fine business Star 2000 received at the exhibition at the Burnie Jaycee Industrial Fair proved a great success and a few new members are promised. Thanks go to Syd TSP for the good work put into the organising of the stand and operating his tx at the site. Thanks also go to all members who exhibited equipment and assisted. Among the interested spectators was ex-VPO, Mr. Honey.

TAB at Devonport has solved the power supply problem for portable work by driving a generator from the motor in his boat and expects to be running 100 watts on v.h.f. shortly.

OBITUARY

The death occurred recently in Hobart of one of the old-timers of Amateur Radio Tasmania, Cecil Seale, ex-VK7CS. "Scotty" was a foundation member of the Tasmanian Division of the W.I.A. and was Secretary for some years. Old-timers will remember him in the old days on 100 metres and later on 80 metres with his station in Launceston. They will also remember him for his great variety of humorous QSL cards, examples of which must be scattered around Australia in great numbers.

"Scotty" will be remembered mostly by those who listened to the Amateurs on 250 metres before the war when Amateurs were allowed to broadcast on this frequency. His jovial wit made his programmes most enjoyable.

In the early days in Launceston, "Scotty" had permission to broadcast on 250 metres on several occasions, before the advent of broadcasting in that city. His notes in various periodicals under the pen-name of "Grid-Leak" and "Cork Eses" will be recalled by many.

It was a shock to the old-timers present at the 4th A.R. meeting when his death was announced to find that "Scotty" was unknown except to the one or two who were thus abruptly reminded of the rapid passing of the years.

CORRESPONDENCE

Main Signal Office,
Naval Headquarters,
Potts Point Sydney,
22nd April, 1954.

Editor "A.R." Dear Sir,

May I through the columns of your publication explain briefly the short life of call sign VK3ZAN. At the Royal Agricultural Society's Easter Show at Sydney a small transmitting-receiving set-up was established in the Naval Section of the Combined Services Display. With the co-operation of two Radio Amateurs in the Navy, Surgeon Lieutenant S. J. Lloyd, R.A.N. (VK3AST) and Chief Radio Electrician M. J. Cosgrove (VK3AAC), a temporary permit was issued by the Wireless Branch of the Postmaster General's Department.

The set-up was a portable and a more practical method of demonstrating wireless equipment to the public. It was with the assistance of VK3ZAN that VK3ZAN was able to be known on Wednesday, 14th April. When the station closed down on Tuesday, 20th April, 57 stations had been contacted.

The set-up was on display to the public and almost the whole time the station was actually operating, the public were able to watch and hear Amateur Radio in action. The public interest was intense and the response from Amateur Radio could not have been better. I hope the publicity gained for Amateur Radio will prove to be beneficial.

I would like to thank all those stations who contacted VK3ZAN and to those who called me to time and hear Amateur Radio in action. I wish to apologise for our misfortune. Two or three initial contacts were not completed due to various reasons, but I am sure that the Hams. However, I am sending a form of QSL to every station I worked, including those contacts which were not completed and hope that they will at least take the station to the normal card.

Finally I would like to thank VK3BK, VK3AX, VK3HJ, VK3JL, VK3JN, VK3JQ, VK3JR, VK3JS, VK3JT, VK3JU, VK3JV, VK3JW, VK3JX, VK3JY, VK3JZ, VK3KA, VK3KB, VK3KC, VK3KD, VK3KE, VK3KF, VK3KG, VK3KH, VK3KI, VK3KJ, VK3KK, VK3KL, VK3KM, VK3KN, VK3KO, VK3KP, VK3KQ, VK3KR, VK3KS, VK3KT, VK3KU, VK3KV, VK3KW, VK3KX, VK3KY, VK3KZ, VK3LA, VK3LB, VK3LC, VK3LD, VK3LE, VK3LF, VK3LG, VK3LH, VK3LI, VK3LJ, VK3LK, VK3LM, VK3LN, VK3LO, VK3LP, VK3LQ, VK3LR, VK3LS, VK3LT, VK3LU, VK3LV, VK3LW, VK3LX, VK3LY, VK3LZ, VK3MA, VK3MB, VK3MC, VK3MD, VK3ME, VK3MF, VK3MG, VK3MH, VK3MI, VK3MJ, VK3MK, VK3ML, VK3MN, VK3MO, VK3MP, VK3MQ, VK3MR, VK3MS, VK3MT, VK3MU, VK3MV, VK3MW, VK3MX, VK3MY, VK3MZ, VK3NA, VK3NB, VK3NC, VK3ND, VK3NE, VK3NF, VK3NG, VK3NH, VK3NI, VK3NJ, VK3NK, VK3NL, VK3NM, VK3NO, VK3NP, VK3NQ, VK3NR, VK3NS, VK3NT, VK3NU, VK3NV, VK3NW, VK3NX, VK3NY, VK3NZ, VK3OA, VK3OB, VK3OC, VK3OD, VK3OE, VK3OF, VK3OG, VK3OH, VK3OI, VK3OJ, VK3OK, VK3OL, VK3OM, VK3ON, VK3OO, VK3OP, VK3OQ, VK3OR, VK3OS, VK3OT, VK3OU, VK3OV, 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